

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (original) A cell-filled device of a modified cross-section hollow fiber membrane type, comprising hollow fiber membranes whose hollow portions are filled with cells, characterized in that:

the hollow fiber membranes have modified cross sections; and
a cell aggregate provided in each of the hollow portions has cells formed into two or more layers in arbitrary directions, provided that a distance from an arbitrary point of the cell aggregate to the nearest inner wall of the hollow fiber membrane is less than 75 μm .

2. (original) A cell-filled device of a modified cross-section hollow fiber membrane type according to claim 1, wherein the distance to the nearest inner wall of the hollow fiber membrane is 50 μm or less.

3. (previously presented) A cell-filled device of a modified cross-section hollow fiber membrane type according to claim 1, characterized in that a cross-section of the modified cross-section hollow fiber membrane is in a flat form.

4. (previously presented) A cell-filled device of a modified cross-section hollow fiber membrane type according to claim 1, characterized in that a pore size of the hollow fiber membrane is 0.001 to 5 μm .

5. (original) A cell-filled device of a modified cross-section hollow fiber membrane type according to claim 4, wherein the pore size is 0.05 to 1 μm .

6. (previously presented) A cell-filled device of a modified cross-section hollow fiber membrane type according to claim 1, characterized in that the hollow fiber membrane is made of a synthetic polymer having a contact angle of 70 degrees or less.

7. (original) A cell-filled device of a modified cross-section hollow fiber membrane type according to claim 6, wherein the synthetic polymer comprises a thermoplastic resin.

8. (original) A cell-filled device of a modified cross-section hollow fiber membrane type according to claim 7, wherein the thermoplastic resin comprises a polyethylene-based resin.

9. (previously presented) A cell-filled device of a modified cross-section hollow fiber membrane type according to claim 1,

characterized in that at least an inner surface of the hollow fiber membrane contains a hydrophilic polymer.

10. (previously presented) A cell-filled device of a modified cross-section hollow fiber membrane type according to claim 1, characterized in that the cells comprise cells derived from an animal tissue.

11. (original) A cell-filled device of a modified cross-section hollow fiber membrane type according to claim 10, characterized in that the cells derived from an animal tissue comprise at least one kind of cell selected from the group consisting of cells derived from a liver, cells derived from a spleen, stem and precursor cells thereof, and genetic recombinant cells.

12. (original) A cell-filled device of a modified cross-section hollow fiber membrane type according to claim 11, characterized in that the cells derived from an animal tissue comprise hepatic cells.

13. (previously presented) A cell-filled device of a modified cross-section hollow fiber membrane type according to claim 10, wherein the cells derived from an animal tissue comprise cells derived from a human organ.

14. (previously presented) A cell-filled device, comprising hollow fiber membranes and cells, provided as the cell-filled device of a modified cross-section hollow fiber membrane type for implantation according to claim 1, wherein each of the hollow portions contains a cell aggregate and both ends of each hollow fiber membrane are sealed.

15. (previously presented) A cell-filled device of a modified cross-section hollow fiber membrane type for a hybrid artificial organ, which is one according to claim 1.

16. (previously presented) A hybrid artificial organ, comprising at least one cell-filled device of a modified cross-section hollow fiber membrane type according to claim 1.

17. (previously presented) A hybrid artificial organ, comprising at least one cell-filled device of a modified cross-section hollow fiber membrane type according to claim 1, being housed in a container having an inlet and an outlet for a liquid to be treated, characterized in that an inside of a hollow of the cell-filled device of a modified cross-section hollow fiber membrane type is separated from an external of the hollow forming a communication path of the liquid to be treated.

18-29. (canceled)